RTO Technical Publications:
a quarterly listing

DECEMBER 2004

NUMBER 04-04

October 1, 2004 through December 31, 2004

This is a listing of recent unclassified RTO technical publications processed by the NASA Center for AeroSpace Information. Reports may be downloaded for free from the RTO web site at http://www.rta.nato.int or they may be purchased from the NASA Center for AeroSpace Information, 7121 Standard Drive, Hanover, MD 21076-1320 USA, phone 301-621-0390, fax 301-621-0134. Prices and order forms are available from the NASA STI web site at http://www.sti.nasa.gov. An automatic distribution of unclassified RTO technical publications on CD-ROM is also available within the U.S. by annual subscription from the NASA Center for AeroSpace Information.

20040139247 NASA Langley Research Center, Hampton, VA, USA
RTO Technical Publications: A Quarterly Listing
October 2004; 2 pp.; In English
Report No.(s): RTO-04-03; No Copyright; Avail: CASI; A01, Hardcopy

This is a listing of recent unclassified RTO technical publications processed by the NASA Center for AeroSpace Information from July 1, 2004 through September 30, 2004. Topics covered include: military training; personal active noise reduction; electric combat vehicles.

Author
Military Technology; Bibliographies; Active Control; Training Simulators

20040200960 Research and Technology Organization, Neuilly-sur-Seine, France
Implications of Multilingual Interoperability of Speech Technology for Military Use
Anderson, Timothy; Pigeon, Stephane; Swail, Carl; Geoffrois, Edouard; Bruckner, Christine; vanLeeuwen, David; Teixeira, Carlos; Orman, Ozgur; Collins, Paul; Grieco, John, et al.; September 2004; 40 pp.; In English
Report No.(s): RTO-TR-IST-011; AC/323(IST-011)TP/26; Copyright; Avail: CASI; C01, CD-ROM; A03, Hardcopy

Military operations are often conducted under conditions of stress induced by high workload, sleep deprivation, fear and emotion, confusion due to conflicting information, psychological tension, pain, and other typical conditions encountered in the modern battlefield context. These conditions are known to affect the physical and cognitive abilities of human speech characteristics, and this study was intended to determine the actual effects of stress on voice production quality. It is suggested that the effect of operator based stress factors on voice is likely to be detrimental to the effectiveness of communication in general, in particular to the performance of communication equipment and weapon systems equipped with vocal interfaces (e.g., advanced cockpits, command, control, and communication systems, information warfare). Progress in the field of military based speech technology, including advances in speech based system design has been restricted due to the lack of availability of databases of speech under stress. In particular, the type of stress which an operator may experience in the modern battlefield context is not easily simulated, and therefore it is difficult to systematically collect speech data for use in research and speech system training. It is foreseen that in the future it will be necessary to improve the coordination of multi-national military forces. The need therefore exists for planned simulations with military personnel using a wide range of speech technology and addressing factors such as high workload, sleep deprivation, fear and emotion, confusion, psychological tension, pain, etc.

Author
Voice Communication; Languages; Interoperability; International Cooperation; Human Factors Engineering

20040201036 Research and Technology Organization, Neuilly-sur-Seine, France

Non-Lethal Weapons and Future Peace Enforcement Operations

November 2004; 66 pp.; In English

Report No.(s): RTO-TR-SAS-040; AC/323(SAS-040)TP/34; Copyright; Avail: CASI; C01, CD-ROM; A04, Hardcopy

The NATO Long Term Scientific Study (LTSS) SAS-040 has been tasked to prepare a Multinational Exercise (MNE) dedicated to the analysis of the use of non-lethal weapons in future peace enforcement operations. To achieve this aim, experts from various origins - military, lawyers, technical experts, representatives of industry, non-governmental organizations, etc. - have participated in this MNE. Three main themes have been adopted in tackling the use of NLW: Operational context, Technologies that can be envisaged, Legal and Political implications and constraints to be taken into account. This document presents the agreed output of the MNE. Specific chapters deal with the general aspects of the themes under consideration. A particular analysis of six concrete situations in which NLW might be used has been also realized. For each theme, conclusions and recommendations are developed in the last chapter of the document.

Author

Physical Exercise; Military Operations; User Requirements; Weapon Systems